

Dec 5
U/R OK 12/19/12

Work Order ID 150880

Thursday, September 08, 2016 3:18:48 PM

150880

Page 1

Item ID: D119-646-041 Accept *N900040100* Setup Start *NS1*
Revision ID: URF 15-560 Stop *NS2*
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 11/9/2016 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 11/30/2016 Req'd Qty: 1.00 *1* Customer:
Reference:

Approvals: Process Plan: em Date: SEP 08 2016 Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3887-041	D								
IIN-D119-646	C								

100

0.00

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D119-646-041 CHG004

110

0.00

110

Skidtubes

Memo

0.00

Skidtubes

1- inspect Mat'L D2500-1-190 for damage
2-Cut tube to length as per dwg D3887 (154.8")
3- Ensure squareness of ends and scribe batch#

16-10-13 

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 16.6%;">Skid-tube ☐</td> <td style="width: 16.6%;">Cross tube ☐</td> <td style="width: 16.6%;">Water Jet ☐</td> <td style="width: 16.6%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
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Work Order ID 150880

Thursday, September 08, 2016 3:18:48 PM

150880

Page 2

Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 11/9/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 11/30/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	Chemical Conversion Coat per QSI005 4.1	0.00							
120 HandFinish Hand Finishing	Memo	0.00				(x1)	Ø		2016/10/18 BEB
121	QC7-Inspect Chemical Conversion Coat	0.00							
121 QC Quality Control	Memo	0.00				1	Ø	16-10-19	DAS 19 9-89
122	QC5- Inspect part completeness to step on W/O	0.00							
122 QC Quality Control	Memo	0.00				1	Ø	16-10-19	D 1 94

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 150880

Thursday, September 08, 2016 3:18:48 PM

150880

Page 3

Item ID: D119-646-041
Revision ID: URF 15-560
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 11/9/2016 **Start Qty:** 1.00
Required Date: 11/30/2016 **Req'd Qty:** 1.00
Reference:

Accept***N900040100*****Setup Start *NS1*****Stop *NS2*****Cust Item ID:****Customer:**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1***Stop *NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
130									
Skidtubes									
Skidtubes	Memo 1- Install drill Jig DT9477 drill X-bolt spacer pilot holes using 3/16" drill first side only. 2- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes. 3- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes using DT9477 4- Open crossbolt spacer holes to finished size as per dwg D3887 (section D-D and E-E) ***DO NOT OPEN FWD Saddles Holes*** 5- Deburr, blow out chips from inside of tube. 6- Bond web in place as per Dwg D3887 & QSI 015. A/RSikaflex-291 <u>B135772</u> Sikaflex expire date: <u>17-02-16</u> Start: _____ Time: <u>9:15</u> Finish: _____ Time: <u>10:05</u> ***** (Adhere for 12 hours) *****	0.00							

16-10-19 *blh*16-10-20 DT *blh*

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Work Order ID 150880

Thursday, September 08, 2016 3:18:48 PM

150880

Page 4

Item ID: D119-646-041 **Accept****Revision ID:** URF 15-560**Item Name:** AW119 Replacement Skidtube with Wearpads - Fits LH or RH**Start Date:** 11/9/2016 **Start Qty:** 1.00 ***1*****Required Date:** 11/30/2016 **Req'd Qty:** 1.00 ***1*****Reference:*****N900040100*****Setup Start *NS1*****Stop *NS2*****Cust Item ID:****Customer:****Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____**QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____**Run Start *NR1*****Stop *NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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135

QC5- Inspect part completeness to step on W/O 0.00

135

QC

Memo

0.00

Quality Control

DAS
18
9-891 Ø 16-10-21

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
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Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

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Page 5

Item ID: D119-646-041 **Accept** ***N900040100*** **Setup Start** ***NS1***
Revision ID: URF 15-560 **Stop** ***NS2***
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 11/9/2016 **Start Qty:** 1.00 ***1*** **Cust Item ID:**
Required Date: 11/30/2016 **Req'd Qty:** 1.00 ***1*** **Customer:**
Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run Start** ***NR1***
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140		0.00							
140									
Skidtubes									
Skidtubes									
	Memo	0.00							
	1- Bend FWD end of tube using bender 1 and FOLIO 31 bend prog. D3887.***Must use bending aid DT9544, ensure proper positioning***								
	2- Cut FWD end of tube as per dwg D3887.***Verify measurment***								
	3- Buff out marks left from bending								
	4- Drill FWD cap holes using DT8215. Open FWD & AFT cap holes to 0.208"								
	5- Open FWD saddle holes to finished size as per dwg D3887								
	6- Drill FWD x-bolt spacer holes using DT9816 and open to finished size.(verify measurement)								
	7- Drill Tow ring hole, using DT10047 locate from FWD saddle hole. (verify measurement). Open to finished size.								
	8- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle hole. (verify measurement) as per dwg.								
	9- C'sink FWD cap hole as per detail "C"								
	10- Drill holes for wearpads using DT8931, open to 0.297".								
	11- Countersink crossbolt spacer holes, and prepare tube for welding, deburr.								
	12- Deburr and blow out chips from inside of tube.								

16-10-24

16-10-24

DAS
19
8-00

DQA: _____ Date: _____



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Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																	
OTHER :																									

Work Order ID 150880

Thursday, September 08, 2016 3:18:48 PM

150880

Page 6

Item ID: D119-646-041 **Accept** ***N900040100*** **Setup Start *NS1***
Revision ID: URF 15-560 **Stop *NS2***
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 11/9/2016 **Start Qty:** 1.00 ***1*** **Cust Item ID:**
Required Date: 11/30/2016 **Req'd Qty:** 1.00 ***1*** **Customer:**
Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run Start *NR1***
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop *NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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150

QC5- Inspect part completeness to step on W/O

0.00

150

QC

Memo

0.00

Quality Control

DAS
18
9-891 5 16-10-26

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By																																																									
								Lead hand / Supervisor Approval Verification																																																									
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Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Work Order ID 150880

Thursday, September 08, 2016 3:18:48 PM

150880

Page 7

Item ID: D119-646-041 Accept

Revision ID: URF 15-560

Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 11/9/2016 Start Qty: 1.00 *1*

Required Date: 11/30/2016 Req'd Qty: 1.00 *1*

Reference:

N900040100Setup Start ***NS1***Stop ***NS2***

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160		0.00							
160									
Skidtubes		0.00							
Skidtubes	Memo NOTE:TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD GROUND HANDELING FIXTURE,IF FIXTURE FITS WELL THEN PROCEED. FIXTURE DT10091. 1-Insert crossbolt spacers. Weld as per QSI 004 and Dwg D3887. Remember to back drill each hole before welding the other side. Use aluminum rod A/RAluminum Rod <u>m134826</u> 2-Grind cross bolt welds flush as per Dwg D3887. Ensure no pin hole. 3-Counterbore 5/16" x 0.750" deep as per Dwg D3887. 4- Deburr & Scribe batch # on Aft end of tube. <u>16-10-27 JH</u>								
170	QC5- Inspect part completeness to step on W/O	0.00							
170									
QC	Memo TEST FIT USING FIXTURE DT10091.	0.00							
Quality Control									

BE16-10-2616-10-26 JH
16-10-27 JH① 16-10-23DAS
9
9-89

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:12.5%;">Skid-tube ☐</td> <td style="width:12.5%;">Cross tube ☐</td> <td style="width:12.5%;">Water Jet ☐</td> <td style="width:12.5%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																							
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OTHER : _____																																																															

Work Order ID 150880

Thursday, September 08, 2016 3:18:48 PM

150880

Page 8

Item ID: D119-646-041 Accept

Revision ID: URF 15-560

Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 11/9/2016 Start Qty: 1.00 *1*

Required Date: 11/30/2016 Req'd Qty: 1.00 *1*

Reference:

N900040100Setup Start ***NS1***Stop ***NS2***

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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180

QC10- Inspect visual per QSI004- ground welds

0.00

180

QC

Memo

0.00

Quality Control

① 16-10-23

DAS
9
9-89

190

Pressure Wash per QSI005 4.3

0.00

190

HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

(X1)

2016/10/31
BEB

200

White Gloss(Ref:4.3.3.1) per QSI005 4.3-Alum

0.00

200

Powdercoat

Memo

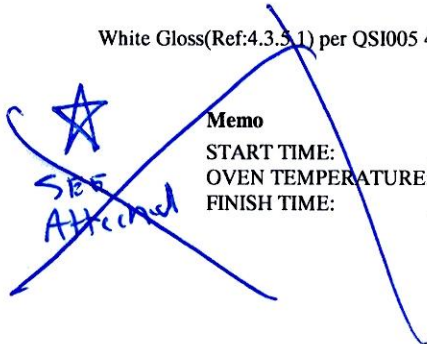
0.00

Powder Coating

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

N/A
see w/o 152553

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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OTHER :																																																																					

Work Order ID 150880

Thursday, September 08, 2016 3:18:48 PM

150880

Page 9

Item ID: D119-646-041 **Accept****Revision ID:** URF 15-560**Item Name:** AW119 Replacement Skidtube with Wearpads - Fits LH or RH**Start Date:** 11/9/2016 **Start Qty:** 1.00 ***1*****Required Date:** 11/30/2016 **Req'd Qty:** 1.00 ***1*****Reference:*****N900040100*****Setup Start *NS1*****Stop *NS2*****Cust Item ID:****Customer:****Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____**QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____**Run Start *NR1*****Stop *NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210 *210* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				_____	_____	_____	_____
220 *220* HandFinish Hand Finishing	<i>N/A see w/o 152553</i> Memo 1-Install inserts as per Dwg D3887.	0.00 0.00				_____	_____	_____	_____
230 *230* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				_____	_____	_____	_____

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																
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Work Order ID 150880***150880***

Page 10

Thursday, September 08, 2016 3:18:48 PM

Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 11/9/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 11/30/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240		0.00							
240 HandFinish Hand Finishing	Memo 1-Install wearpads, gaskets as per Dwg D3887. Put sikaflex in insert before installing bolts and washers A/R Sikaflex-240/-291 _____ Sikaflex expire date: _____ 2-assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: _____ 3 -Inspect for foreign objects as per QSI 024 4 -Install Aft Cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291 _____ Sikaflex expire date: _____	0.00							
245	QC5- Inspect part completeness to step on W/O	0.00							
245 QC Quality Control	Memo	0.00							

★
SEE
Attached

N/A see w/o
152553

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
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Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
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Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
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Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : _____							

Work Order ID 150880

Thursday, September 08, 2016 3:18:48 PM

150880

Page 11

Item ID: D119-646-041 **Accept** ***N900040100*** **Setup** **Start** ***NS1***
Revision ID: URF 15-560 **Stop** ***NS2***
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 11/9/2016 **Start Qty:** 1.00 ***1*** **Cust Item ID:**
Required Date: 11/30/2016 **Req'd Qty:** 1.00 ***1*** **Customer:**
Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run** **Start** ***NR1***
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250 *250* HandFinish Hand Finishing	Wing Walk as per dwg QSI005 4.4 Batch _____ Memo	0.00 0.00				_____	_____	_____	_____
251 *251* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				_____	_____	_____	_____
260 *260* Packaging Packaging	Identify as per dwg & Stock Location: _____ Memo	0.00 0.00				_____	_____	_____	_____

MA see w/o 152553

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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Work Order ID 150880

Thursday, September 08, 2016 3:18:48 PM

150880

Page 12

Item ID: D119-646-041 Accept

Revision ID: URF 15-560

Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 11/9/2016 Start Qty: 1.00 *1*

Required Date: 11/30/2016 Req'd Qty: 1.00 *1*

Reference:

N900040100Setup Start ***NS1***Stop ***NS2***

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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270

QC21 - Final Inspection - Work Order Release

0.00

270

QC

Memo

Quality Control

*see
WO 152553***DAS
21
9-09**

NOV 11 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
4407 112 4-1			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐			FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		
OTHER : ☐					

Picklist Print

Thursday, September 08, 2016 3:18:48 PM

Page 1

Work Order ID: 150880

150880

Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 11/9/2016

Required Date: 11/30/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC
10.02.22 per PAR 09-043 EC verified by:DD IPP rev B
10.02.22 per PAR 09-043 EC verified by:DD IPP REVC 12.11.05
(DEOD3887-B-1)(ecn 12-675) DD verf:JLM IPP REV:D 13.03.20 per
chg003 ECN13-534 DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2500-1-190

Manufactured

No

110

Each

59.0000

1

1

D2500-1-190

Ext'n - I' Beam Tube 4"

**

16-10-13

Location

Loc Qty

Loc Code

HALL

59

145247

59

D2579

Manufactured

No

140

Each

137.0000

2

2

D2579

Crossbolt Spacer

**

16-10-26

Location

Loc Qty

Loc Code

LG001

137

123907

1

141711

136

D2855-3

Manufactured

No

240

Each

73.0000

2

2

D2855-3

Cap

**

N/A
see also 152553

Location

Loc Qty

Loc Code

FP001

73

142564

73

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition																					
								Completed By																	
								Lead hand / Supervisor Approval Verification																	
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Picklist Print

Thursday, September 08, 2016 3:18:48 PM

Page 2

Work Order ID: 150880

150880

Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 11/9/2016

Required Date: 11/30/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1611-005

Purchased

No

240

Each

216.0000

16

16

NAS1611-005

O-RING

Location

Loc Qty

Loc Code

FP001

216

m129198

11

m133498

81

m134816

24

m135465

100

D3492-5

Manufactured

No

240

Each

229.0000

16

16

D3492-5

Plug

Location

Loc Qty

Loc Code

FP001

229

133396

8

136396

6

138198

2

142818

14

145446

199

D3672-1

Manufactured

No

240

Each

1,246.000

2

2

D3672-1

Washer, Phenolic

Location

Loc Qty

Loc Code

FG

10

85222

10

FP001

928

112218

4

134785

424

150074

500

ST049

308

147077

308

Thursday, September 08, 2016 3:18:48 PM

Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process	OTHER :							
Misidentified ☐	☐ Past Due								

Picklist Print

Thursday, September 08, 2016 3:18:48 PM

Page 3

Work Order ID: 150880

150880

Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 11/9/2016

Required Date: 11/30/2016

Start Qty: 1.00

Required Qty: 1.00

D3681-1 Manufactured No

160 Each 129.0000 8 8

D3681-1

Spacer

*BE 16-10-26
8 151967 * 3*

Location

Loc Qty

Loc Code

LG001

129

145956

1

147557

48

148201

80

D3847-1 Manufactured No

240 Each 78.0000 5 5

D3847-1

Wearpad

Location

Loc Qty

Loc Code

FP001

78

138338

10

142854

2

145857

5

145858

9

145859

30

148686

22

D3847-11 Manufactured No

240 Each 21.0000 1 1

D3847-11

Wearpad

Location

Loc Qty

Loc Code

FP001

21

138418

1

142783

19

146945

1

*N/A call
40152553*

Thursday, September 08, 2016 3:18:48 PM

Shop Packet Print

Page 3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
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Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
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Picklist Print

Thursday, September 08, 2016 3:18:48 PM

Page 4

Work Order ID: 150880

150880

Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 11/9/2016

Required Date: 11/30/2016

Start Qty: 1.00

Required Qty: 1.00

D3885-1 Manufactured No

140 Each 23.0000 1 1

D3885-1

Standard Web

Location

Loc Qty

Loc Code

LG002

23

142573

3

146232

20

160 Each 51.0000 12 12

D3903-1 Manufactured No

D3903-1

Spacer

Location

Loc Qty

Loc Code

LG001

51

142730

7

148673

44

220 Each 5,435.000 30 30

ALS4-1032-130 AELS4-1032-130 Purchased No

ALS4-1032-130

Rivnut

Location

Loc Qty

Loc Code

CCK004

4400

M135442

4400

FG

50

FG

M135442

50

FP001

529

M133077

122

M134502

407

ST556

456

M135442

456

see
w/ 152553

16-10-2017

BE 16-10-26
8150281 *12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
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Picklist Print

Thursday, September 08, 2016 3:18:48 PM

Page 5

Work Order ID: 150880

150880

Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 11/9/2016

Required Date: 11/30/2016

Start Qty: 1.00

Required Qty: 1.00

AN3C5A Purchased No 240 Each 1,209.000 32 32

AN3C5A

Bolt

Location	Loc Qty	Loc Code
FG	5	
122800	5	
FP001	131	
M134955	106	
M135470	25	
OVER002	800	
M135297	600	
M135442	200	
ST350	273	
M133234	1	
M134676	272	

see w/b 152553

NAS1149C0332R

Purchased No

Each 3,982.000 32

NAS1149C0332R

WASHER

Location	Loc Qty	Loc Code
FP001	1344	
m135274	1344	
GA	137	
m133284	137	
ST260a	2000	
m135408	1000	
m135466	1000	
ST266	501	
m134736	501	

Thursday, September 08, 2016 3:18:48 PM

Shop Packet Print

Page 5

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☐	Composite ☐	Supplier ☐																			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																	
Description Work Order Deviation			Disposition																		
						Completed By															
						Lead hand / Supervisor Approval Verification															
			QC / QA Coordinator Approval																		
Root Cause			FAULT CATEGORY																		
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																
OTHER :																					

Picklist Print

Thursday, September 08, 2016 3:18:48 PM

Page 6

Work Order ID: 150880

150880

Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 11/9/2016

Required Date: 11/30/2016

Start Qty: 1.00

Required Qty: 1.00

MS24694-C52

Purchased

No

Each

85.0000

2

MS24694-C52

SCREW

*N/A see
WO 152553*

Location

Loc Qty

Loc Code

FP001

29

m127059

17

m133855

12

ST285

50

m135466

50

ST287

6

124308

6

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Shop Packet Print

Page 6

DQA: _____ Date: _____



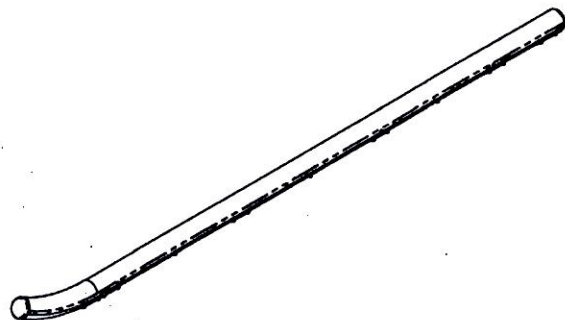
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐						
Date : _____		Step #: _____		QTY Effective : _____		MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				
								Completed By
								Lead hand / Supervisor Approval Verification
								QC / QA Coordinator Approval
Root Cause		FAULT CATEGORY						
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____						
Misidentified ☐	Past Due ☐							

8 7 6 5 4 3 2 1



D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD (SHOWN)
D3887-043 STANDARD SKIDTUBE ASSY WITH WEAPLATE (SIMILAR)
D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)

ITEM	QTY -041	QTY -043	QTY -045	P/N	DESCRIPTION
1	X			D3887-041	STD SKIDTUBE ASSY WITH WEARPAD
2		X		D3887-043	STD SKIDTUBE ASSY WITH WEARPLATE
3			X	D3887-045	STD SKIDTUBE ASSY WITH TRAINING WEARPLATE
10	2	2	2	D2579	CROSS BOLT SPACER
11	2	2	2	D2855-3	CAP
12	18	18		D3492-045	PLUG ASSY
13	2	2	2	D3672-1	PHENOLIC WASHER
14	8	8	8	D3681-1	SPACER
17	5	5		D3847-1	WEARPAD
18	1	1		D3847-11	AFT WEARPAD
19		1		D3847-043	FWD WEARPLATE ASSY
20		1		D3847-045	CENTER WEARPLATE ASSY
21		1		D3847-047	AFT WEARPLATE ASSY
22			1	D3849-041	FWD TRAINING WEARPLATE ASSY
23			1	D3849-043	AFT TRAINING WEARPLATE ASSY
24	1	1	1	D3885-1	STANDARD WEB
25	1	1		D3887-11	STANDARD SKIDTUBE
26			1	D3887-13	STANDARD SKIDTUBE
27	12	12	12	D3803-1	SPACER
28			16	D3804-1	WASHER
41	30	30		ALS4-1032-130	INSERT
42	32	32	2	AN3C5A	BOLT
43			8	AN3C48A	BOLT
44	32	32		NAS1149C0332R	WASHER (OR AN980C10L)
45			8	MS21043-3	NUT
46	2	2	2	MS24804-C52	SCREW

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RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 150880
dm

RELEASED
2014 NOV 24
ECN 14-028
UNDER REVIEW
15.04.30 URF15-560 AP

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3885-1 WEB
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3887-041 = 32.0 lbs
D3887-043 = 37.0 lbs
D3887-045 = 38.1 lbs
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES
ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020" DEEP IN THE BENT
PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT
PORTION OF THE TUBE.
- 10) INSERT D3885-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE
WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP
- 11) INSERT D3492-045 PLUG ASSY INTO Ø0.197 HOLES (BOTH SIDES OF TUBE)
- 12) USE DART DRILL TEMPLATE DT8931 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARPLATE INSERTS.
INSTALL AELS-1032-130 INTO D3887-11 ONLY. INSTALL AN3C5A BOLTS AND NAS1149C0332R WASHERS
WITH SIKAFLEX-241/-291.

SEP 08 2016

D	REVISED BEND TOLERANCES FOR MANUFACTURABILITY, 135.07 WAS 134.04 (ZN D5-8), ADD 6.07 (ZN C2-8), ADD 118.8 (ZN D5-8), DELETE GASKETS (BOM, SH 2)	DB	13.09.20
C	(SHT 1, PL 2) ZN C2-3, C3-2, C4-2) ITEM 13, QTY 2 WAS 4, ITEM 42, QTY 32 WAS 34, ITEM 44, QTY 30 WAS 32, ADD ITEM 48, MS24804-C52 WAS AN3C5A, 2 PLCS (ZN C1-5, C1-6, B4-7) Ø0.201 CSK Ø0.385 X 100" WAS Ø0.214 THRU, ADDED DETAIL F (ZN C4-5, C5-6, B5-7), ADD ITEM 10, D2679 CROSS BOLT SPACER (ZN D4-1, A5-7)	DB	13.02.19
B	ALS4-1032-130 WAS AELS-1032-130 (ZN C4-1, C5-7, C3-7); ADD DT8931 (ZN A5-1); ADD 134.04 (ZN C4-8); D2855-3 WAS D2575 (ZN D4-1, C7-2, C2-2, C7-3, C2-3, C7-4, C2-4); AN3C5A WAS AN3C4A (ZN C5-2, C5-3, C5-3, C5-4, C2-4); Ø0.313 WAS Ø0.328 (ZN C4-5, C4-5, C2-7 & B3-7) REVISED NOTE N (ZN B3-7)	RF	09.06.30
A	NEW ISSUE	RF	09.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3887	SHEET 1 OF 8
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DE APPR.		A119 STD SKIDTUBE ASSY	NTS
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AN3C5A BOLT
D3872-1 PHENOLIC WASHER
NAS1149C0332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/291

D2855-3 CAP

D3847-11
WEARPAD

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE
TYP

11
Ø0.187
8 PL PER SIDE
REF

2.00 DISTANCE TO D3885-1 WEB, REF

AN3C5A BOLT
NAS1149C0332R WASHER
24 PL

PLUG UNUSED INSERTS WITH
AN3C5A BOLT
NAS1149C0332R WASHER
8 PL

D3847-1
WEARPAD
5 PL

D2855-3 CAP

SEAL WITH
SIKAFLEX-241/291

MS24894-C52 SCREW
(1 PER SIDE)

D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD
(MAKE FROM D3887-11)

UNDER REVIEW

15.04.30 URF15-560 AP

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2014 NOV 24 *ap*

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AN3C5A BOLT
D3872-1 PHENOLIC WASHER
NAS1149C0332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/291

D2855-3 CAP

D3847-11
WEARPAD

D3847-047
AFT WEARPLATE ASSY

D3847-045
CENTER WEARPLATE ASSY

D3847-043
FWD WEARPLATE ASSY

D3847-1
WEARPAD
5 PL

AN3C5A BOLT
NAS1149C0332R WASHER
30 PL

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE
TYP

11
Ø0.197
8 PL PER SIDE
REF

D2855-3 CAP

SEAL WITH
SIKAFLEX-241/291

MS24684-C52 SCREW
(1 PER SIDE)

D3887-043 STANDARD SKIDTUBE ASSY WITH WEARPLATE
(MAKE FROM D3887-11)

UNDER REVIEW

15.04.30 URF15-560 AP

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AN3C5A BOLT
D3672-1 PHENOLIC WASHER
NAS1149C0332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/291

D2855-3 CAP

AN3C46A BOLT
D3904-1 WASHER, 2 PL
MS21043-3 NUT
8 PL

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE
TYP

1.5 1.5 1.5

2.00 DISTANCE TO D3885-1 WEB

D3849-043
AFT TRAINING WEARPLATE ASSY

D3849-041
FWD TRAINING WEARPLATE ASSY

1.5 D2855-3 CAP

SEAL WITH
SIKAFLEX-241/291

MS24894-C52 SCREW
(1 PER SIDE)

UNDER REVIEW

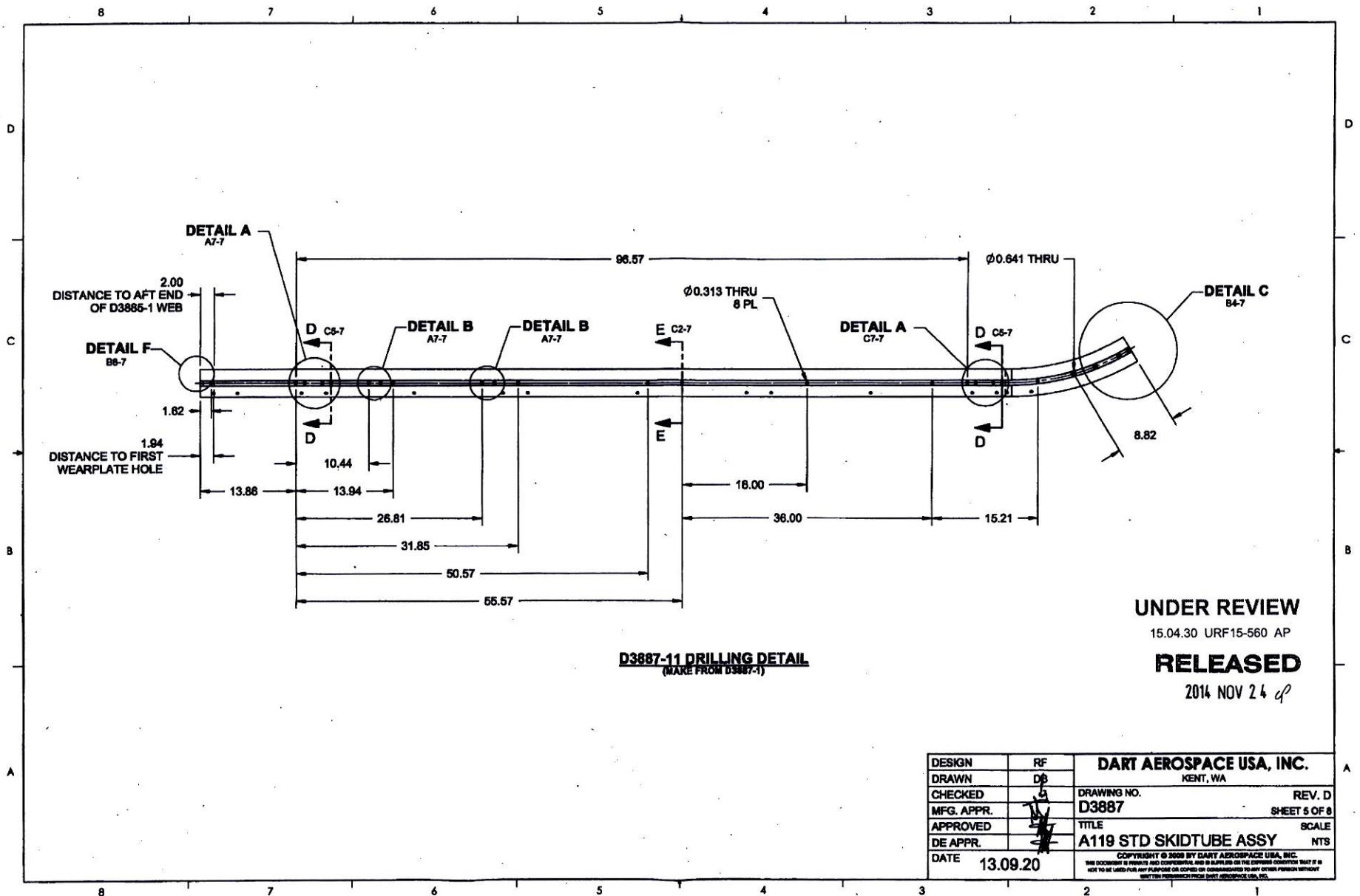
15.04.30 URF15-560 AP

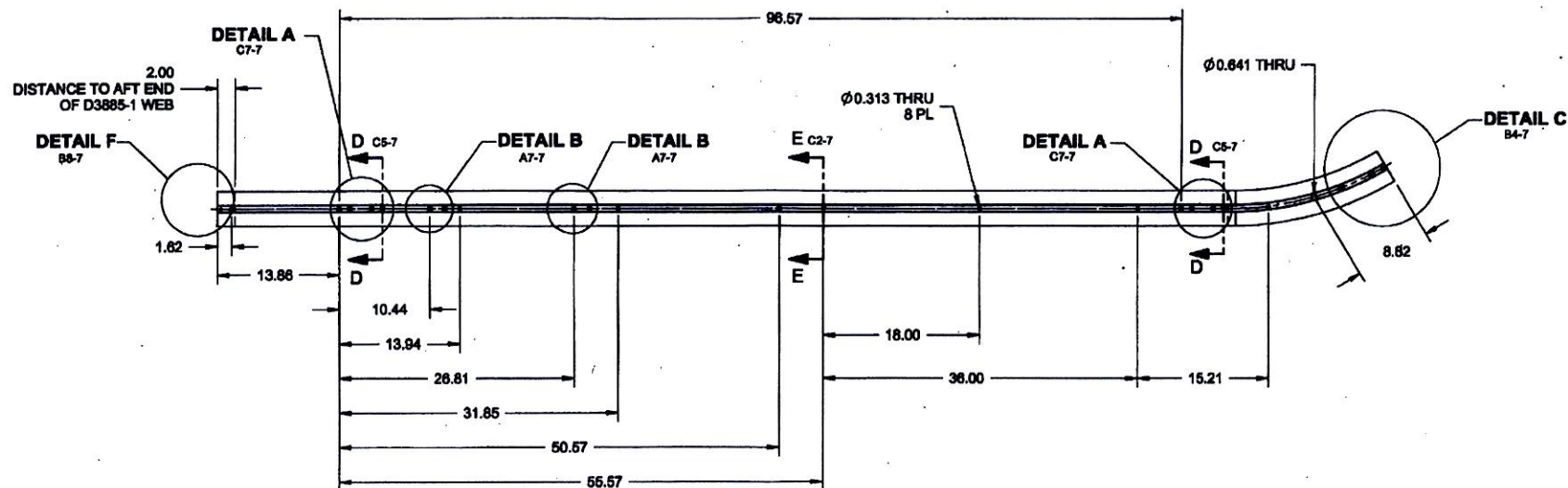
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D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE
(MAKE FROM D3387-13)

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D3887-13 DRILLING DETAIL
(MAKE FROM D3887-1)

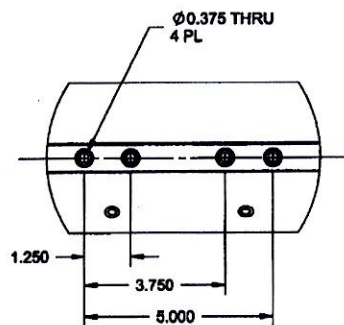
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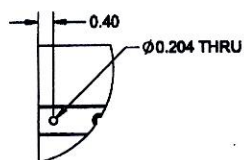
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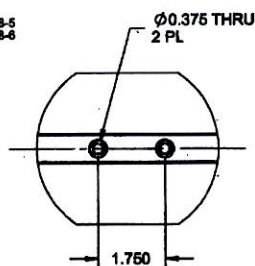
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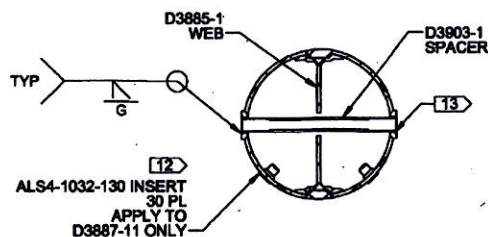
DETAIL A
SCALE 4X
D7-5
C3-5
D7-6
C3-6



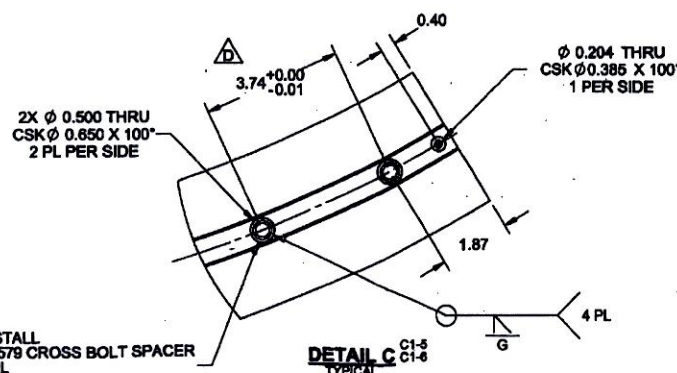
DETAIL E
SCALE 4X
C8-5
C8-6



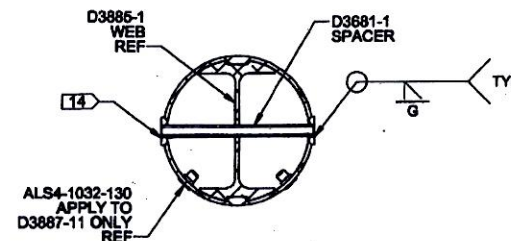
DETAIL B
SCALE 4X
C8-5
C5-5
C8-6
C5-6



SECTION D-D
SCALE 4X
(FOR 12 X $\phi 0.375$ HOLES
PER SKIDTUBE)
C7-5
C3-5
C7-6
C2-6



DETAIL C
SCALE 4X
C1-5
C1-6



SECTION E-E
SCALE 4X
(FOR 8 X $\phi 0.313$ HOLES
PER SKIDTUBE)
C4-5
C4-6

- NOTES:**
- 13) AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR $\phi 0.375$ HOLES ONLY:
- i) CHAMFER HOLES $\phi 0.475 \times 45^\circ$
 - ii) INSERT D3903-1 SPACER
 - iii) WELD INTO PLACE AND GRIND FLUSH
 - iv) CBORE TO 0.313×0.75 DEEP
 - v) DEBURR HOLES
- 14) AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR $\phi 0.313$ HOLES ONLY:
- vi) CHAMFER HOLES $\phi 0.354 \times 45^\circ$ OR 0.050 DEEP $\times 45^\circ$ (BOTH SIDES)
 - vii) INSERT D3681-1 SPACER
 - viii) WELD INTO PLACE AND GRIND FLUSH
 - ix) DEBURR HOLES

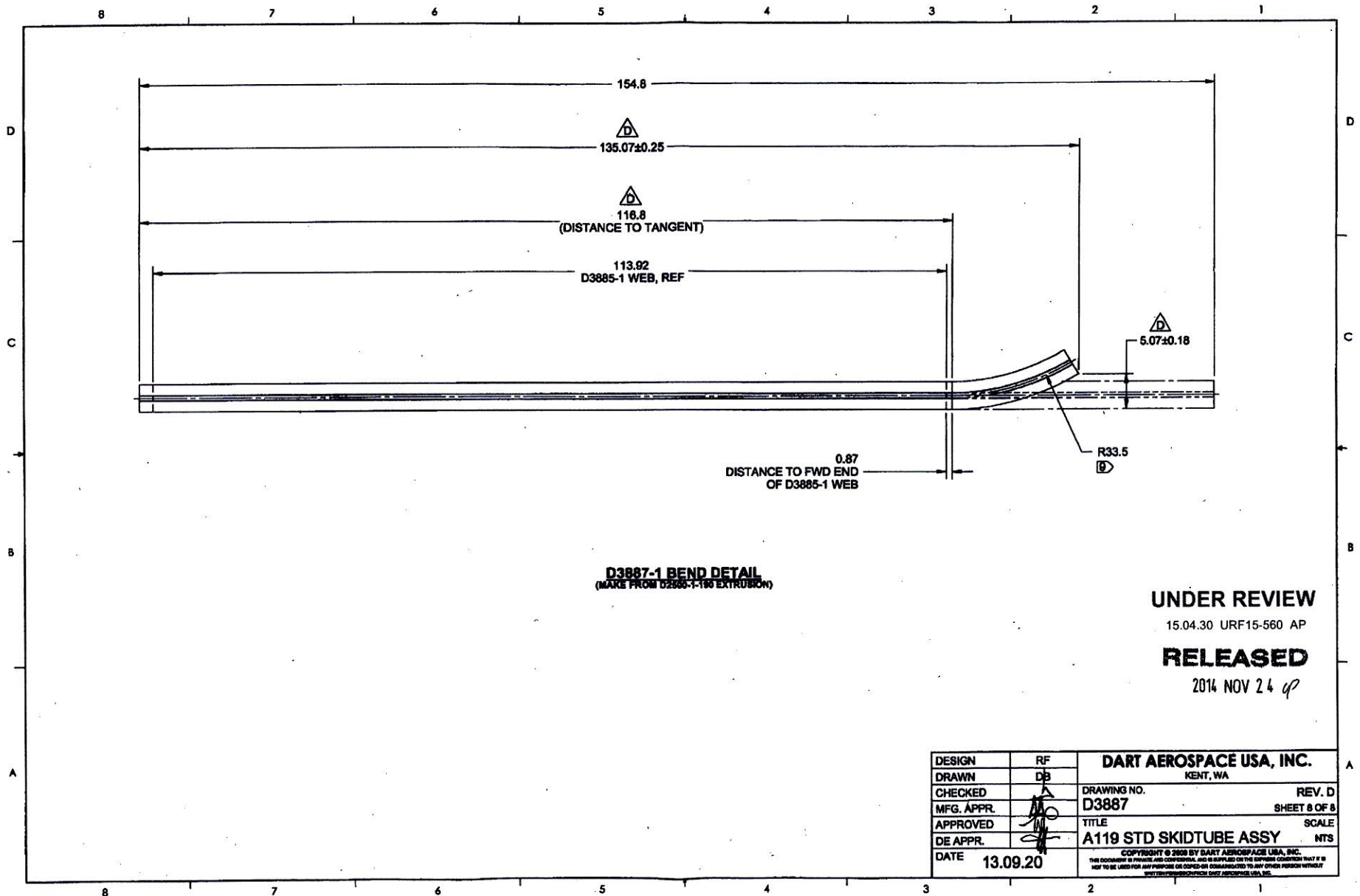
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15.04.30 URF15-560 AP

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DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☒

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☒</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☒	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☒																						
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Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date : 16/3/16		Step #: 240		QTY Effective :		MRB (QSI042) Approval DAS 12 9-89 16/9/12																			
Description Work Order Deviation				Disposition																					
Plug unused holes with AN3C4A Bolts rather than AN3CSA Bolts.				Acceptable																					
				Completed By																					
				Lead hand / Supervisor Approval Verification																					
				QC / QA Coordinator Approval																					

Root Cause			FAULT CATEGORY		
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :			
Misidentified ☐	Past Due ☐				

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☒

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☒ Quality ☐ Other ☐					
Date : 16/5/16		Step #: 200		QTY Effective :			MRB (QSI042) Approval DAS 12 16/9/12 9-89		
Description Work Order Deviation				Disposition				Completed By	
No powder coat on saddle region per customer request.				Acceptable per attached Masking instructions				Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY		
Environment	☐	No Re-verification	Pressure/Forced	☐	Temperature/Cure
Design	☐	Operator	Bending	☐	Set-up
Doc/Data	☐	Offset/Setup	Centre Not Concentric	☐	BOM/Route
Equip/Tooling	☐	Supplier	Cracks	☐	Broken/Damage/Defect
Handling/Pre	☐	Training	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified
Material	☐	Use for Testing	Cuffs	☐	Contamination
Internal Transport	☐	Poor Information	Crushing	☐	Countersink
Tribal Knowledge	☐	Rushing	Heat Treat	☐	Cut Too Short
LOA	☐	Product Improvement	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear
Substation	☐	Process Improvement	Marks/Chatter	☐	Drill Holes
Past Expiry Date	☐	Manufacturing Process	☒ OTHER : Customer		
Misidentified	☐	Past Due			

